MEDICAL PROCEEDINGS

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REDAKSIONEEL · EDITORIAL

NUWE UITBREKINGS VAN ASIATIESE INFLUENSA?

Die A/Asië/57-virus wat die wêreld verlede jaar verras het, sal waarskynlik die oorheersende tipe in influensa-uitbrekings gedurende die eersvolgende paar jaar wees. Dit is bes moontlik dat mense wat tydens die pandemie in 1957 besmet geraak het, 'n basiese onvatbaarheid vir die virus sal toon, en hulle sal derhalwe waarskynlik aan infeksie ontsnap as daar epidemieë gedurende die eersvolgende seisoen voorkom.

Die opvallendste feit in verband met die 1957-influensa-epidemie wat aan die lig gebring is deur die Wêreldgesondheidsorganisasie se Komitee van Deskundiges insake Virussiektes van die Asemhalingstelsel op 'n vergadering in Stockholm, is dat die verantwoordelike virus geheel en al verskil van al die virussoorte wat epidemieë veroorsaak het tydens die aangetekende geskiedenis van influensa-virusse, d.w.s. sedert 1933.

Aangesien die meeste bevolkingsgroepe nog nie tevore in aanraking met die ‚nuwe' virus gekom het en gevolglik nie onvatbaarheid daarvoor opgebou het nie, kon die pandemie met baie min weerstand voortwoeker. Dit het byna die helfte van die wêreld se bevolking aangetas.

Inenting Tydens Swangerskap

In vergelyking met vroeëre grootskeepse influensa-uitbrekings (daar word bv. gemeen dat die pandemie van 1918–19 die lewe van ten minste 15 miljoen mense opgeëis het) was die 1957-pandemie van 'n ligte graad. Nuwe uitbrekings van Asiatiese influensa sal waarskynlik nog ligter wees, want die natuurlike weer-

NEW OUTBREAKS OF ASIAN INFLUENZA?

The A/Asia/57 virus which, last year, took the world by surprise, is likely to be the predominant type in influenza outbreaks during the next few years. People who were infected during the pandemic in 1957 are likely to have at least a basic immunity to the virus, and it is therefore possible that they will escape infection if epidemics do occur during the coming season.

The most striking fact with regard to the 1957 influenza pandemic, reviewed recently at a meeting in Stockholm by the WHO Expert Committee on Respiratory Virus Diseases, is that the virus responsible is quite distinct from any of the viruses which have caused epidemics during the recorded history of influenza viruses, i.e. since 1933.

Since most populations groups had never been in contact with the 'new' virus and, consequently, had not acquired immunity to it, the advance of the pandemic met with little resistance. It affected almost half the world's population.

Vaccination in Pregnancy

Compared with previous major influenza outbreaks (the 1918–19 pandemic, e.g. is believed to have killed at least 15 million people), the 1957 pandemic remained mild. New outbreaks of Asian influenza may prove even milder, because the natural resistance built up last year will make it more difficult for the virus to get about.

Also, large quantities of vaccine, proved to offer 60–70% effective protection, are now

stand wat verlede jaar opgebou is, sal dit moeiliker vir die virus maak om die ronde te doen.

Buitendien is groot hoeveelhede entstof, wat reeds die bewys gelewer het dat dit 'n beskerming verleen wat vir 60–70% doeltreffend is, tans in etlike land beskikbaar. Volgens die deskundiges van die Wêreldgesondheidsorganisasie is inenting, uit 'n kliniese oogpunt, veral van groot belang vir verwagtende moeders en mense wat aan hartbloedvat- of longsiektes, of aan metaboliese kwale ly. Om maksimumbeskerming te verleen, is dit noodsaaklik dat die pasiënt ingeënt moet word ten minste 2 weke voor die tydperk wanneer die influensa, na verwag word, epidemiese afmetings sal aanneem.

Op die vergadering in Stockholm het die deskundiges van die Wêreldgesondheidsorganisasie ook 'n oorsig verstrek van belangrike nuwe vorderings op die gebied van influensaentstofnavorsing. Dit skyn asof die ondervinding wat met verswakte lewende virusentstowwe in die Sowjet-republiek opgedoen is, veelbelowend is. Die beginsels wat ten grondslag van die ontwikkeling van lewende virusentstowwe lê, is om 'n preparaat te produseer wat maksimum-doeltreffendheid in die hand sal werk, nie te veel sal kos nie, en maklik en met die minste ongerief vir die pasiënt toegedien kan word.

In teenstelling met die influensavirus wat met formalien geïnaktiveer is en tans in die meeste lande gebruik word, word die lewende virusentstof nie ingeënt nie, maar wel in die neus en keel gespuit. Omdat dit besonder giftig is, word dit nie aanbeveel vir kinders onder 7 jaar nie.

'N ENTSTOF-HULPMIDDEL

'n Ander oplossing—belowend maar nog nie gestaaf nie—vir die probleem hoe om voldoende hoeveelhede van 'n bepaalde entstof vinnig genoeg te produseer as 'n nuwe virussoort sy verskyning maak, is om verder oor die weg te kom met die gewone entstof deur dit met 'n spesiale ‚hulpstof' te meng. Dit sal die effek van die entstof verhoog, met die gevolg dat minder per dosis nodig sal wees.

Maar watter entstof ook al gebruik word, is dit natuurlik heeltemal buiten die kwessie om 'n influensa-epidemie deur middel van inenting stop te sit. Die doel is om die effek van so 'n epidemie te beperk deur die voorkoming van 'n hoë sterftesyfer en buitensporige werkafwesigheid wat openbare dienste kan desorganiseer en die samelewing tot 'n stilstand kan bring.

DIERERESERVOIRS VIR MENSLIKE INFLUENSA

Die Wêreldgesondheidsorganisasie se deskundiges het ook die moontlikheid van 'n dierereservoir vir menslike influensa in oënskou geneem. Daar is aangetoon

available in several countries. According to the WHO experts, vaccination, from a clinical point of view, is especially important for expectant mothers and people suffering from cardiovascular or lung disease, or metabolic disorders. To offer maximum protection, vaccination should be given at least 2 weeks before the period when influenza is expected to become epidemic.

During their meeting in Stockholm, the WHO experts reviewed important new advances in influenza vaccine research. Experience in the USSR with attenuated live virus vaccines appears promising. The principles guiding the development of live virus vaccines are to produce a preparation that is maximally effective, is economic and can be administered easily with the least discomfort to the recipient.

Contrary to the formalin-inactivated influenza virus, now in general use in most countries, the live virus vaccine is not administered by inoculation but sprayed into the nose and throat. Because of its high virulence, it is not recommended for children under 7 years old.

VACCINE ADJUVANT

Another solution, promising but as yet unproven, to the problem of producing sufficient quantities of a certain vaccine fast enough when a new strain of virus is about, is to make the quantity of ordinary vaccine go further by mixing it with a special adjuvant material. This will enhance the effect of the vaccine so that less is needed per dose.

Whichever vaccine is used, there can be no question of stopping an influenza epidemic by vaccination. What is aimed at is the limitation of its effects by preventing high death rates and excessive absenteeism, such as would disorganize public services and bring society to a standstill.

ANIMAL RESERVOIRS OF HUMAN INFLUENZA

The WHO experts also reviewed the possibility of an animal reservoir of human influenza. It has been shown that a virus related to the influenza virus of swine was prevalent in Man about the time of the 1918-19 pandemic and it is possible that the same or a closely related virus may have been the cause of that pandemic.

The possible relationship of the Asian virus to a virus present in Man about the time of the 1889 pandemic and the postulated re-emergence in 1957 of the 1889 virus from some un-

dat 'n virus wat aan die influensavirus van varke verwant is, sy verskyning by die mens gemaak het teen omtrent die tyd van die 1918–19-pandemie, en dit is moontlik dat dié pandemie deur dieselfde of 'n dergelike virus veroorsaak kon gewees het.

Die moontlike verwantskap tussen die Asiatiese virus en die virus wat ongeveer ten tyde van die 1889-pandemie by die mens aangetref is, en die gepostuleerde herverskyning in 1957 van die 1889-virus uit die een of ander onbekende bron, plus die feit dat die varkvirus nie langer die mens affekteer nie hoewel dit nog steeds by varke aangetref word, het die moontlikheid laat ontstaan dat sekere diere bes moontlik 'n rol in die omgewingsleer van menslike influensa kan speel.

Dit is op die oomblik net 'n bespiegeling, maar die Wêreldgesondheidsorganisasie het etlike belangrike studies van stapel gestuur om die saak te toets.

Onder die ander virussoorte wat infeksies van die asemhalingstelsel veroorsaak en op die Stockholmse vergadering bespreek is, was die adenovirusse. Etlike tipes is onlangs geïdentifiseer. Die aanvalsyfer t.o.v. koorsgevalle van die siekte kan gedurende die winter 25% bereik onder mense wat saamgehok is, bv. militêre rekrute. Daarenteen is die syfer gedurende die somer gewoonlik laag.

Somerepidemieë veroorsaak deur adenovirussoorte is veral onder kinders waargeneem. Hierdie epidemieë kan miskien in verband gebring word met die besmetting van swembaddens en mere.

Daar is aangetoon dat sommige van die adenovirusse die oorsaak van epidemiese kwale van die asemhalingstelsel was, terwyl andere weer die oë kan besmet en 'n soort bindvliesontsteking tot gevolg kan hê.

Wat betref die gewone verkoue, een van die grootste plae van die mensdom, het die deskundiges van die Wêreldgesondheidsorganisasie aandag bestee aan die bewyse dat dit nie deur 'n enkele virus veroorsaak word nie, maar bes moontlik deur 'n hele aantal verskillende dinge. Die oplossing van hierdie verbysterende probleem is nog baie ver buite ons bereik. Die toepassing van nuwe tegnieke gee ons egter meer hoop vir die toekoms.

In hul oorsig van die Wêreldgesondheidsorganisasie se influensaprogram het die internasionale deskundiges saamgestem dat die wêreldwye netwerk van influensasentrums van die Wêreldgesondheidsorganisasie reeds veel bygedra het tot ons kennis van die endemiologie en beheer van influensa. Binne minder as 3 weke nadat die Wêreldgesondheidsorganisasie die eerste nuus in verband met hierdie betekenisvolle epidemie ontvang het, kon die organisaie gesondheidsbesture en entstofproduserende laboratoriums in kennis stel dat die verantwoordelike virus nie verwant was aan enigeen van die soorte wat vroeër geïsoleer is, en dat die bestaande entstowwe waarskynlik geen beskerming sou verleen nie. Hierdie waarskuwing is so betyds uitgereik dat 'n hele paar lande in staat gestel is om 'n ‚wedloop' met die dreigende epidemie aan te knoop.

Die eerste aankondiging in verband met die ‚nuwe' virus is op 4 Mei 1957 uit Singapoer aan die Wêreldgesondheidsorganisasie gestuur. Later is egter ontdek dat die epidemie op daardie tydstip reeds 8 weke lank voortgewoeker het op die vasteland van China wat op die oomblik nie aan die werk van die Wêreldgesondheidsorganisasie deelneem nie. As dit destyds bekend was, sou die wêreld twee maande langer gehad het om hom voor te berei.

known situation, plus the fact that the swine virus no longer affects Man but persists in pigs, has raised the possibility that certain animals may play a role in the ecology of human influenza.

This is at present speculation but several important WHO studies are in progress to test the matter.

Among other viruses causing respiratory infections discussed at the meeting in Stockholm were the adenoviruses. Several types of these have been identified recently. The attack rates of febrile cases of the disease may reach 25% during the winter among people crowded together, e.g. military recruits, but the rates in summer are usually low.

Summer epidemics caused by types of adenoviruses have been observed especially among children. These epidemics may have been related to contamination of swimming pools and lakes.

Some of the adenoviruses have been incriminated as the cause of epidemic respiratory diseases and some can infect the eye, causing a form of conjunctivitis.

With regard to the common cold, one of the major pests of mankind, the WHO experts reviewed evidence that it is not caused by a single virus but may be due to a number of different agents. We are still a long way from a solution to this baffling problem. Application of new techniques, however, gives us more hope for the future.

In reviewing the WHO Influenza Programme, the international experts agreed that the world-wide network of WHO Influenza Centres had already contributed much to the knowledge of the endemiology and control of influenza. In just less than 3 weeks after WHO had received the first news that a significant epidemic was occurring, the Organization was able to inform health authorities and vaccine producing laboratories that the responsible virus was unrelated to all previously isolated strains and that existing vaccines were unlikely to give protection. This warning was given in time for several countries to 'race' the impending epidemic.

The first notification of the new virus was sent to WHO from Singapore on 4 May 1957. However, as was afterwards discovered, the epidemic had already been spreading for 8 weeks in mainland China, which is not at present participating in WHO's work. If this had been known at the time, the world would have had 2 more months in which to prepare.

ACUTE INTESTINAL OBSTRUCTIONS

THEIR CONSERVATIVE MANAGEMENT

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During the last decade comforting mortality rates have been cited for certain forms of acute bowel occlusion, but the over-all position judged by more comprehensive reports does much to dispel undue optimism.[9, 17] Aird[1] has had occasion to remark that, although the literature suggests that the treatment of such lesions is both standardized and simple since the introduction of the saline drip and gastro-duodenal suction, these measures, essential though they are, do not in practice constitute as effective an armoury as might be supposed.

Definition: For the purpose of this paper conservative management may be defined as the choice of non-operative measures as an alternative to surgery or as a means of bringing a patient to a condition of stability where an elective rather than an emergency operation may be undertaken.

CHOICE OF CASES

Conservative management should be confined to instances of adhesive simple occlusions of the small bowel and, more particularly, post-operative occlusions. Colonic occlusions should at all times be regarded as actual or potential closed loops requiring surgical intervention. Conservative management of even simple small bowel occlusions is not suitable, as a rule, where infants are concerned. In this connexion, in their statistical review of over 1,000 cases of acute intestinal occlusion, Smith *et al.*[17] report that, of 9 deaths in a series of cases treated conservatively, no fewer than 6 were infants so treated following a recurrence of obstruction after earlier operations for intestinal atresia. One is not referring here to the conservative management of infantile intussusceptions, an aspect which has been reviewed by the author in an earlier contribution.[8]

While Eliason and Welty[4] have cited a mortality rate of only 1% for a moderate series of simple occlusions and the conservative management of acute intestinal occlusions has enjoyed considerable popularity and success,[12, 17, 19, 20] it would be wrong to assume that an acute simple occlusion does not carry with it a very definite risk to the patient and that conservative management is an easy undertaking.

In the author's opinion conservative management should be confined to the following types of case in the first instance:

(*a*) Early post-operative occlusions.

(*b*) Late post-operative occlusions in the following circumstances:

i. Where such patients are seen early in the course of the illness, evidences of potential strangulation are absent and distension is minimal.

ii. Where a neglected simple occlusion presents with dehydration, gross distension and shock with a systolic blood pressure of less than 100 mm. Hg.

iii. In the much-operated-upon patient who presents with a simple enteric occlusion.

(*c*) Recent post-inflammatory instances of simple occlusion; and

(*d*) Patients with peritoneal carcinomatosis who present with symptoms of bowel occlusion.

EARLY POST-OPERATIVE OCCLUSIONS

Most if not all such lesions should be treated conservatively in the first instance for the following reasons:

1. It is clearly undesirable to re-open a recently laparotomized patient unless this becomes quite essential.

2. The nature of many, but not all, post-operative occlusions is such that a single point of obstruction is not necessarily present, the obstruction arising from multiple points of adherence of loops of bowel both to one another and to the parietal peritoneum or peritoneal suture line, as a result of a plastic peritoneal reaction to the previous laparotomy.

Even where a complete or more or less complete luminal occlusion does exist, the degree of occlusion is often related to a temporary oedema.

Both these types of pathology tend to resolve, but when one operates on these lesions the separating off of adherent coils of gut to 'free' them or as a means of searching for a point of complete occlusion, far from resolving the condition, aggravates the obstructive element.

The serosa of the bowel is readily traumatized during such manipulations, however gently carried out.

3. In early cases there is, too, the possibility of operating on a true adynamic 'ileus;' but the author would stress that the majority of cases of apparent post-operative 'ileus' are essentially mechanical in nature, and there are always those less frequent instances where operative surgery does become necessary.

LATE POST-OPERATIVE CASES

Here, despite the ready response which may follow conservative management, operative intervention is the writer's personal preference;

but this does not necessarily mean urgent emergency surgery. In general, operative treatment is preferable for the following reasons:

1. The obstructing lesion is usually a single band and, since the exciting pathology is now static, the secondary obstruction may well not respond to conservative management; or, if it so responds, may recur within a brief period. Moses[14] found that just over 50% of a series of about 100 adhesive occlusions required operative intervention.

One would prefer to operate on these patients at an early stage rather than to wait and then have to resort to surgery after the patient has been on intravenous fluids for several days.

2. Even if evidences of a closed or strangulating loop are not present to begin with, a secondary torsion may, and not infrequently does, bring about a strangulation.[5-7, 9] This complication may also eventuate during those hours when the surgeon is not at the patient's bedside. Smith *et al.*[17] estimate that the risk of gangrene of the gut ensuing during conservative management is only 1% and base this view on a review of some 400 cases so treated; but of 16 patients who did develop gangrene of the bowel under these conditions, no less than 4 (25%) died. Further, in terms of 49 instances of gangrene where early surgery was undertaken, there was a mortality rate of 9 cases, again an incidence of close to 20%. This incidence of a fatal termination is not peculiar to the review conducted by Smith *et al.*;[17] one could cite numerous other reports during the last decade indicating a 20% mortality rate for gut resection in the face of infarction.

3. The diagnosis of an adhesive occlusion based on the fact that the patient has undergone a previous abdominal operation is pure assumption. The basic pathology may be a related malignant process, mesenteric hiatus or other pathology requiring surgery on its own merits.

4. Aird[1] has rightly drawn attention to the fact that whatever lip loyalty is paid to the maintenance of normal fluid and electrolyte balance by intravenous medication for any length of time, this programme is in practice anything but as effective and simple as it might sound in theory.

However, despite these drawbacks, there are cases of this nature where conservative treatment, in the first instance at least, is not only preferable to surgery but may be life-saving in itself.

Such instances are as follows:

i. *The Patient who Presents During the First 24 Hours of Illness*: Where the general condition is good, evidences of a closed loop or other strangulating type of lesion are absent, and distension is minimal on clinical and X-ray examination, conservative treatment may be instituted.

If 2 hours' intubation and suction[2] results in complete relief of pain, such management may be continued but, unless after 24 hours there is evidence of considerable progress towards resolution as evidenced by minimal suction, absent distension and audible peristaltic sounds of a normal quality, the author would advise laparotomy.

ii. *The Patient Seen after Several Days' Illness who Presents with Evidence of Dehydration, Gross Distension and Shock*: Admittedly these patients are not ideal cases for the successful control of distension by conservative means since, in view of the atonic condition of the bowel, it may prove impossible to get a long tube to enter the small bowel, and remain there. These are also the cases where the site of occlusion is low down and gastric intubation is less effective. But be these handicaps as they may, the fact remains that initial conservative management (as distinct from an hour or two of hurried pre-operative therapy) is indicated in every case where the systolic blood pressure is below 100 mm. Hg.

Reasons for this viewpoint are as follows:

(*a*) As much as 9 pints[2] of intravenous fluid may be necessary to restore an adequate fluid balance. To administer such massive amounts of water and electrolytes within a brief period, while being often harmful in itself, does nothing to lessen the associated gut distension which is the principal lethal factor in these cases.

Even where the blood volume may be so restored, and despite ingenious techniques devised to empty coils of distended gut at operation, there is a grave risk attached to operating on the grossly distended patient, irrespective of the fact that on paper, at least, fluid and electrolyte balance have been corrected.

(*b*) On no account should surgery be undertaken while the systolic blood pressure is below 100 mm. Hg, even at the risk of missing or delaying surgical treatment of an associated strangulating lesion. The recent report in this country by Kok[10] indicates that 45% of all deaths which took place during the administration of an anaesthetic for an abdominal operation followed an intestinal obstruction. It is quite obvious that in a number of these cases surgery had been undertaken at a time when the patient's systolic blood pressure was below 100 mm. Hg.

iii. *The Much-Operated-Upon Patient*: Obviously surgery should be avoided if possible, and conservative care is indicated in the first instance; but is subject to the same provisions mentioned in relation to patients presenting with a late post-operative adhesive occlusion but who are seen early on in the course of their illness.

iv. *Post-Inflammatory Occlusions*: Where the clinical picture of a simple enteric occlusion presents immediately subsequent to that of an intra-abdominal inflammatory illness, conservative treatment is the obvious choice, as in the cases of early post operative occlusions; here, too, such therapy is usually successful.

In both the early post-operative case and also in this group, however, a point of practical difficulty may arise in relation to signs of supervening strangulation. The evidences of a strangulating process are essentially those of

peritoneal irritation and pain unrelieved by gastro-duodenal suction; but where such signs present they may well be due to an incidental peritoneal infection and the progress of the patient may be handicapped by a laparotomy at this stage. Nevertheless, if any serious doubt exists the author prefers to open the patient and view, but not necessarily disturb, existing pathology. Elsewhere the author[5] reports an instance where an 'ileus' associated with a pelvic infection in a female patient was treated conservatively and a fatal termination ensued. At post-mortem examination a strangulation with gangrenous gut was found.

Where a patient presents with evidences of occlusion and there is a history of an inflammatory episode some time before, the author prefers surgery to conservative management. The diagnosis of a post-inflammatory adhesive occlusion at this stage is pure assumption.

v. *Peritoneal Carcinomatosis*: Conservative care is obviously indicated in these patients.

THE TECHNIQUE OF MANAGEMENT

(*a*) FOR HOW LONG AND UNDER WHAT CONDITIONS SHOULD CONSERVATIVE MANAGEMENTS BE PERSEVERED WITH?

1. In every instance where, after 2–3 hours of gastric suction, pain is not altogether or very materially relieved, the patient has either a closed loop or other form of strangulation, in which case surgery must be resorted to, or there is incidental intra-abdominal pathology which should be treated on its own merits.

2. If at any time during conservative management, signs indicative of a closed loop or strangulation present, surgery must be undertaken provided again that the systolic blood pressure is at least 100 mm. Hg. Such signs are a return of pain following suction, evidences of peritoneal irritation, a tumour mass, a return of shock, a sudden rise in pulse rate and X-ray evidences of a closed loop.

3. If symptomatic relief is obtained but after 24 hours there is no evidence that the situation has been brought under control, surgery should be resorted to. Signs indicating failure to control the obstruction would be persistent or increasing distension, an increasing amount of suction and a persistently fast pulse or low blood pressure.

4. Where conservative management has resulted in apparent resolution of the occlusion, as indicated by:

(*a*) No return of nausea or vomiting after cessation of suction and the taking of fluids by mouth;

(*b*) Clinical and X-ray evidence of resolution of small gut distension with gas now presenting in the colon without colonic distension;

(*c*) Normal peristaltic sounds and the passage of flatus; and then there is a return of symptoms of occlusion, such patients must be operated on and not submitted to a second trial of conservative management unless their general condition precludes surgery.

5. Where the obstructive symptoms occur immediately on the period of peristaltic inhibition which follows an abdominal operation, and the adoption of conservative treatment results in both symptomatic relief and control of the process, such measures may be continued for several days as one would treat as proven adynamic 'ileus;' but even here constant caution is indicated. A very early entirely mechanical and obstinate occlusion may present as an 'ileus' from the very start. The author had occasion to treat such a situation, following an ante-colic gastrectomy, for 6 days before a second operation revealed a mechanical occlusion 3 feet distal to the gastro-enterostomy stoma. Such patients may not suffer from colic or abdominal pain at any time. Stammers[18] comments on this type of obstruction.

In instances of 'ileus' following hard on the heels of a known peritoneal inflammatory process, one may again persevere for several days with conservative management provided that the situation appears to be under control. In all other instances, however, and despite the success that so often attends non-operative therapy, the author does not allow the patient to go for more than 48 hours unless, at this stage, if resolution has not already taken place there are signs that clearance of the obstruction is well on its way. Even in the most favourable circumstances one would be averse to continuing conservative measures for more than 72 hours, where late adhesive occlusions are concerned.

6. In any event all patients under conservative management *must* be examined by the doctor in charge every 12 hours and the position assessed.

(*b*) FLUID AND ELECTROLYTE BALANCE

The literature is replete with information in this regard and the author would make only the following comment:

1. Where massive amounts of fluid have to be given and where large amounts of intestinal content are aspirated, care should be used in replacement of salt loss by normal saline and, in elderly subjects in particular, it is often better to use half strength saline.[2]

2. Neglected low simple enteric occlusions tend to exhibit in the wall of the lower coils of gut all the changes usually associated with a strangula-

tion and benefit in consequence from the administration of whole blood.

3. Where a patient has his or her distension brought under control, the blood pressure is satisfactory, and there is an adequate excretion of urine, there is no great need to rely on extensive laboratory data in order to assess the patient's progress and, conversely, where distension is not under control, no matter how satisfactory the patient's blood chemistry may appear to be following intravenous therapy, the patient is as yet no better.

Colleagues have complained to one that just when (according to the laboratory reports) they have achieved full electrolyte and water balance, the patient suddenly expires.

4. In hospitals where trained staff are at a premium one's experience has been that staff will not or simply cannot chart the intake and output of fluid accurately. The author's own procedure is to insist that all urine passed is kept in a single container next to the bed for each 24 hours. The same applies to the total amount of aspirated content for that period and, as each Vacoliter bottle becomes empty, it is left on the patient's locker and not removed during each 24-hour period. In this way the surgeon can chart his own balance sheet each 24 hours with reasonable accuracy.

(*c*) SUCTION

The Wangensteen apparatus is both simple and effective and far more efficient than mechanical suction pumps.

While the use of 'long' tubes is desirable, their usage is both time-consuming and not always successful. In such circumstances, particularly in the case of an early post-operative occlusion, an indwelling gastric tube usually meets the case.

In a recent series of 30 adhesive occlusions treated by conservative measures the author used a Ryle's tube in every case. Of these patients 21 settled down without surgery and, of the remaining 9 cases, in 7 there was a secondary torsion and the successful usage of a long tube would in all probability not have avoided the necessity for surgery. There was also no mortality.

(*d*) ANTIBIOTICS

There is no need or indication to administer these drugs in every instance of small gut occlusion. In fact, their early and haphazard use may well precipitate additional complications. Where however, a late and low small gut simple occlusion is concerned, the effects of prolonged stasis and distension result in the following pattern of events:

(*a*) The bacterial flora multiply and assume a greater pathogenicity.

(*b*) This bacterial activity results in a rapid rise of tension in the involved loops and the intra-mural anastomotic vessels[15] fail to accommodate themselves to this rise in tension, with the result that the intra-mural circulation is hindered. Long before this reaches the stage of a frank tension gangrene,[13] the blood supply to the mucosa has suffered[11] and although such loops remain 'viable,' there is ulceration of the mucosa (Saint's 'Third termination of inflammation') and bacterial invasion of the wall of the bowel follows. Before release of the loop or actual devitalization of the gut wall, the by-products of this intra-luminal and intra-mural infection do not reach the systemic circulation[3] but subsequent to release of the involved loops it is probable that this infection plays a role in such post release complications as 'ileus,' shock and gastro-enteritis, the last-named of which at times simulates the clinical picture of a necrotizing enteritis as described by Pullan.[16]

In these cases there is a clear indication for the exhibition of antibiotics; but how far the intravenous or intramuscular administration of antibiotics can control this process prior to release is uncertain. Where a long tube has been successfully passed, antibiotics may be instilled into the lumen of the affected loops.[17] Subsequent to release the author uses oral antibiotics as a routine in the type of case just described.

(*e*) VASO-PRESSOR DRUGS

While it may be quite legitimate to use these drugs to temporarily boost the blood pressure before adjusting a depleted blood volume in cases of traumatic internal haemorrhage, they should be used with care in cases of shock associated with intestinal occlusion and are no safe pre-operative substitute for an adequately restored blood volume. They may, however, be of value in tiding the patient over a temporary crisis which may eventuate, despite an adequately restored blood volume, e.g. the post-operative shock which may follow the abrupt release of a long loop distension.

(*f*) OBSERVATION OF THE PATIENT

Not only must the surgeon re-examine these patients every 12 hours at least, but the nursing staff must be taught to look for and recognize danger signals, particularly the following:

i. *A Return of Pain.* For this reason alone patients on conservative treatment must not receive anything more than minimal sedation.

ii. *A Sudden Rise in the Pulse Rate, Rather than the Total Pulse Rate.* A jump from 80 to 100 per minute, while not spectacular, may be the first sign of strangulation.

iii. *A Falling Systolic Blood Pressure, or a Failure to Maintain a Previously Satisfactory Level of Pres-*

sure. The nursing staff should be able to take the blood pressure readings themselves.

Where patients are seriously ill the pulse rate should be taken hourly, and where the systolic blood pressure is less than 100 mm. Hg, the reading should be taken every hour until it stabilizes at or over 100 mm. Hg for an hour. Thereafter the pressure should be read 2-hourly until improvement in the patient makes this unnecessary.

iv. On approaching a R.A.F. station during the war the author noted the legend *Dedigitate* written in large white lettering across the landing field. In terms of the conservative management of intestinal occlusions the reverse holds true. A rectal examination should be undertaken frequently. In cases seen by the author over the last 15 years quite 30% had not had a rectal examination performed on them by the practitioners who first saw them. A tumour suggestive of a closed loop may be the only sign indicative of a strangulating lesion and may only be picked up by careful bimanual examination.

CONCLUSION

There is a very real place for the conservative management of patients suffering from an acute intestinal occlusion, but this programme should be reserved for selected instances of adhesive occlusion and under such conditions is frequently but not always successful; as a necessary alternative to surgery it may in other instances be life-saving in itself.

At the same time the method is not an easy process to control with exactitude and does not constitute an easy way out where the seriously ill patient is concerned.

CASE ILLUSTRATIONS

In a relatively recent series of 65 patients who, for one reason or another, presented with the clinical signs of an acute bowel occlusion, the author adopted conservative measures in the first instance in 30 cases with the following results:

i. In 21 the condition resolved, and in 9 surgery became necessary;

ii. Only 4 of 21 early post-operative occlusions failed to resolve, but 5 of 9 late cases required surgery;

iii. Where surgery became necessary in 7 of the 9 instances a secondary volvulus was found at operation;

iv. In one instance the author failed to re-visit a patient at the end of the first 12 hours, and when the patient was seen again after 18 hours an obvious strangulation was present. At operation a 2-foot gangrenous loop presented.

v. In 2 instances the occlusion apparently yielded readily to conservative measures, but within 48 hours symptoms recurred and prompt operation at this stage revealed a secondary bowel torsion.

vi. A middle-aged patient admitted with a late post-operative adhesive occlusion with gross distension, severe dehydration to the point of a pre-renal anuria and a systolic blood pressure of only 65 mm. Hg, was treated conservatively for almost 3 days before her distension was controlled and her systolic blood pressure reached and stabilized at a satisfactory level. She was then submitted to an elective operation with success.

vii. In 3 instances conservative management was continued for over 3 days where early post-operative cases were concerned. In 2 of these a true adynamic ileus was probably present but in the third case conservative management was persisted with for more than 3 days, despite the fact that no evidence of resolution was forthcoming and the amount of suction was increasing. This led to late and urgent surgery at a time when the patient's condition had deteriorated. Although there was no mortality for the 30 cases, this patient might easily have died.

viii. In another case after a trial period of conservative management in an early post-operative occlusion the lesion apparently settled down very readily, but symptoms recurred within 48 hours of the primary resolution. Because no evidence of a closed loop was present, conservative measures were again adopted, but here again after further valuable time had been lost operation had to be undertaken. The patient should have been operated on when symptoms first recurred.

ix. A middle-aged patient presented with symptoms of simple small gut occlusion. She had had a previous appendicectomy. Conservative management resulted in rapid and complete resolution. She then insisted on being discharged. On principle, rather than from any conviction in the matter, her previous medical history was re-checked by her general practitioner and a history then obtained of a recent episode of left iliac fossa pain and some change in her bowel habits. On the strength of this a barium enema was administered and a ring stricture of the sigmoid detected. At operation she had an early colonic carcinoma. Just proximal to the stricture a stercoral ulcer had precipitated a leak and small gut adherent at this point had resulted in the adhesive occlusion.

Should patients who have suffered from an adhesive occlusion which resolved under conservative management be submitted to an elective laparotomy before leaving hospital? Not necessarily, but their medical history and clinical state must be carefully checked. Where the attack of occlusion has been a particularly severe one, the author would advise that laparotomy be seriously considered.

OPSOMMING

Konserwatiewe beheer oor akute ingewandsafsluiting het gedurende die ‚na-suigingstydperk' besonder gewild geword en is met heelwat welslae bekroon. maar die metode is nòg eenvoudig nòg gestandardiseer. Gastro-duodenale buisinsetting en suiging sal nie uitsetting in alle gevalle kontroleer nie, en die instandhouding van die vloeistof- en elektrolitiese ewewig deur middel van binne-aarse terapie is in die praktyk nie altyd so geslaagd soos dit in teorie is nie.

Nietemin is daar definitiewe indikasies vir proefnemings met konserwatiewe beheer, maar die metode behoort voorbehou te word vir die volgende soorte eenvoudige vasklewende afsluitings van die dunderm:

(a) Vroeë na-operatiewe vasklewende afsluitings.

(b) Latere na-operatiewe vasklewende afsluitings waar

(i) die pas'ënt vroeg tydens die siekte ondersoek word en daar geen bewyse van 'n geslote of beklemde lis is nie, en

(ii) waar buitensporige uitsetting, ontwatering en skok later tydens die siekte by hierdie soort pasiënte waargeneem word.

(c) Vroeë nà-ontstekingsafsluitings en

(d) Gevalle van buikvlieskarsinose wat afsluiting-simptome vertoon.

Terwyl die metode in die eerste instansie aangedui word vir ten minste die merendeel van vroeë na-operasie-afsluitings en in sulke gevalle dikwels suksesvol is, moet dit in die geval van laat na-operasie-pasiënte by wie sekondêre beklemming altyd 'n moontlikheid is, versigtig toegepas word.

Terwyl daar gerapporteer word dat min gevalle van sekondêre beklemming in sulke gevalle voorkom, bly die sterftesyfer ten gevolge van derminfarkt baie hoog. Pasiënte wat aan konserwatiewe behandeling onderwerp word, moet derhalwe sorgvuldig waargeneem en ten minste al om die 12 uur deur die dokter in bevel ondersoek word.

Waar pasiënte simptome van skok vertoon, behoort konserwatiewe maatreëls ingestel en voortgesit te word tot tyd en wyl die sistoliese bloeddruk 'n honderd of meer bereik het en ten minste 'n halfuur lank op hierdie peil gestabiliseer is. Slegs dan—en nie vroeër nie—moet daar tot chirurgie oorgegaan word.

In 'n onlangse reeks van 65 pasiënte wat die kliniese beeld van akute ingewandsafsluiting vertoon het, het die skrywer konserwatiewe maatreëls op 30 toegepas.

Al 30 was gevalle van vasklewende afsluiting. 23 is opgelos, en 9 het chirurgie vereis. Van die pasiënte wat geopereer moes word, het 7 'n sekondêre dermknoop vertoon, en in een geval was daar 'n derminfarkt. Terwyl slegs 4 van die 21 vroeë na-operasie-gevalle nie op konserwatiewe beheer gereageer het nie, was dit nodig om 'n operasie uit te voer op 5 van die 9 laat na-operasie-pasiënte.

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CRANIOSTENOSIS, ASYMMETRY AND GROWTH OF THE SKULL

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Johanneeburg

(*Concluded from p.* 360)

THE CRANIOSTENOSES AND THEIR DIFFERENTIAL DIAGNOSIS

The craniostenoses have been classified by Simmons and Peyton (Table 4).[22] For the purpose of this paper only the commoner forms need be considered, to show how the study of asymmetry of the skull and its response to positive and negative growth stimuli can be applied in the differential diagnosis.

TABLE 4: THE CRANIOSTENOSES[22]

A. Complete, early, premature synostosis of the cranial sutures (oxycephaly, turricephaly, Turmschädel).

1. Oxycephaly with facial deformity.
2. Craniofacial dysostosis of Crouzon.
3. Acrocephalosyndactylism.
4. Delayed oxycephaly (onset after birth).

B. Incomplete early synostosis of the cranial sutures.

1. Scaphocephaly: premature closure of the sagittal suture.
2. Brachycephaly: premature closure of the coronal suture or lambdoidal suture.
3. Plagiocephaly: asymmetrical premature closure of the sutures.
4. Mixed.

C. Late premature synostosis of the cranial sutures after the skull has reached or nearly reached adult size so that no deformities and no symptoms result. (Usually up to three years of age. Not to be considered pathological).

MICROCEPHALY

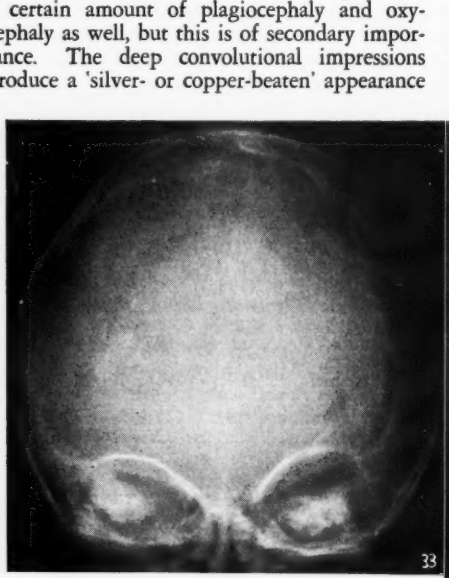
In microcephalic craniostenosis more than one suture is prematurely synostosed, and it must be differentiated in the first place from the other types of craniostenosis because surgical treatment is obligatory and more extensive.

Figs. 33 and 34 resemble Figs. 23 and 24 in their shape, indicating the asymmetrical in-

volvement of the coronal sutures which was visible on the original radiographs of the basal view. In addition, the sagittal suture is affected and replaced by the typical dense line of the early stages of stenosis. The lambdoid suture is patent. This is a combination of plagiocephaly and scaphocephaly. Both sides of the coronal suture are involved, though asymmetrically.

Figs. 35 and 36 are from a case of microcephalic craniostenosis involving all the sutures. Their asymmetrical involvement has produced a certain amount of plagiocephaly and oxycephaly as well, but this is of secondary importance. The deep convolutional impressions produce a 'silver- or copper-beaten' appearance or 'thumb-marking' as the skull adapts to the growing brain beneath it. This must be differentiated from Luckenschadel or lacuna skull (Fig. 37), which is due to defective ossification. Here the sutures are patent, and the lacunae do not correspond in size or shape with the cerebral convolutions.

Microcephalic craniostenosis must be differentiated also from two other types of microcephaly. The first is secondary to cerebral atrophy (Fig. 38). The vault is smooth and thick. It is small for the patient's age and small also in comparison with the facial bones. There is thus no evidence of growth or adaptation to underlying growing brain. At a late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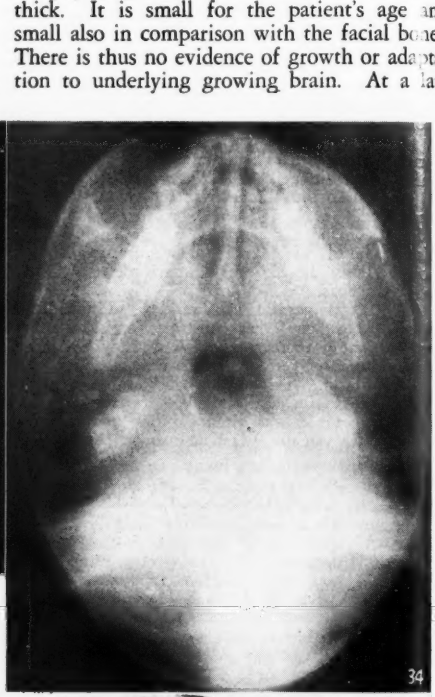
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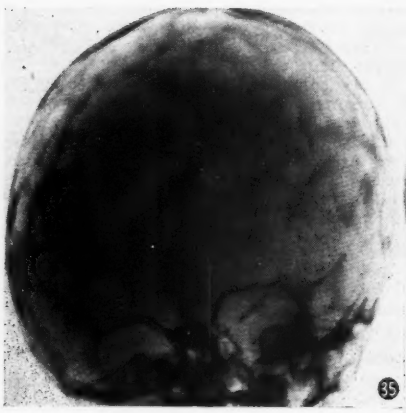
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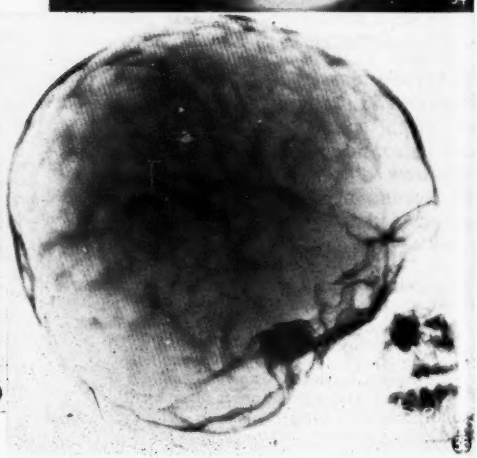
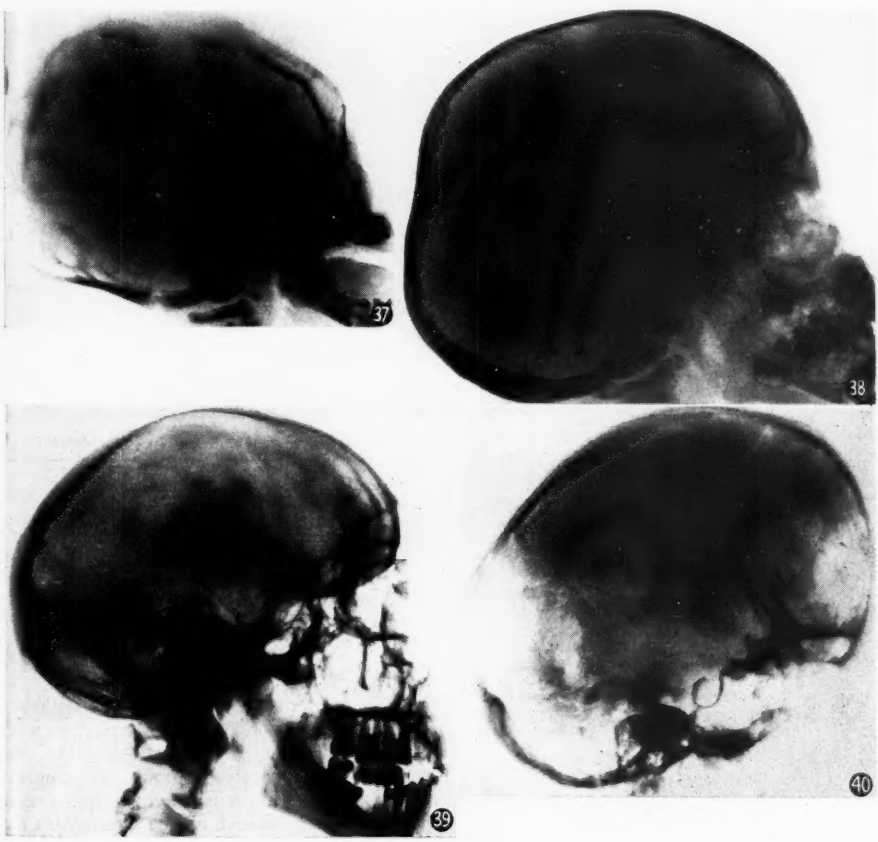


stage the suture may close prematurely, but the thick smooth vault provides a diagnostic contrast with the thin silver-beaten vault of craniostenosis. The second (Fig. 39) is a normal small vault, of normal thickness and with normal sutures and convolutional impressions, yet small both on measurement and in relation to the face. This can occur with apparently normal mental and physical development.

OXYCEPHALY

Oxycephaly is due to premature synostosis of the coronal suture. The forehead is high and the anterior fossa is short, leading to exophthalmos and optic atrophy. On the sphenoidal fissure view both lesser wings are high and oblique. The lateral view shows the shape of the skull well (Fig. 40). The coronal suture is closed, but the lambdoid is widely patent. Convolutional impressions on the frontal squame are exaggerated.

Oxycephaly must be differentiated from brachycephaly which may be racial, familial or acquired. Acquired brachycephaly can be produced by binding the head or by posture. Fig. 41 is a case of brachycephaly due to prolonged recumbency, and Fig. 42 is one due to fragilitas ossium. Its causation is similar to that of scoliosis capitis, with which it is often associated. In marked cases of this condition the frontal squame is sometimes slightly thickened and smooth, while the occiput shows exaggerated convolutional impressions and thinning. This effect is gravitational, probably due to a tendency for the brain to fall backwards in the supine position. A similar effect is produced by immobilization in a Bradford frame where the head hangs down with the neck in hyperextension.[18] Extraordinary lengthening of the vertical height occurs. In marked brachycephaly the basal view may present a strikingly circular appearance (Fig. 43). The round skull with a short base that occurs in achondroplasia as a result of failure of growth at the spheno-occipi-



tal synchondrosis must also be distinguished from other forms of brachycephaly and from oxycephaly.

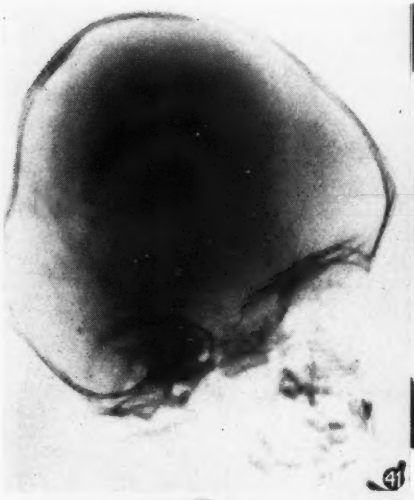
SCAPHOCEPHALY

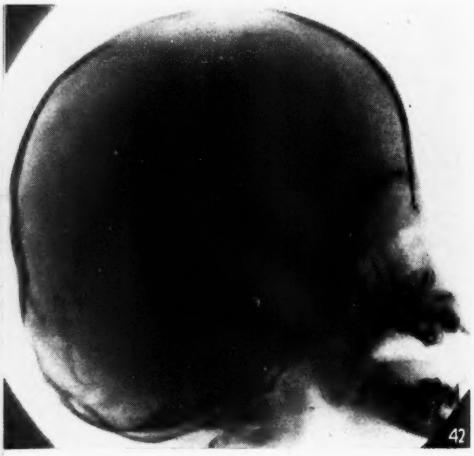
The commonest type of craniostenosis is the relatively benign condition of scaphocephaly. The antero-posterior diameter of the skull is increased and the coronal and lambdoid sutures are patent (Fig. 44, from an infant of 2 weeks). Before the sutures close in craniostenosis they often show some heaping up and sclerosis of their edges. This is best seen in scaphocephaly (*4a* in Fig. 45). After fusion a palpable ridge may persist at the site of the suture for some time (Fig. 46). Scaphocephaly is readily differentiated from dolichocephaly where the sutures are normal.

TRIGONOCEPHALY

In this condition the forehead is narrow and the eyes are close-set. The basal view (Fig. 47) shows the characteristic triangular picture, with a ridge replacing the metopic suture. This ridge has led some authorities to consider trigonocephaly an example of craniostenosis involving the metopic suture; but there is no localized increase of the convolutional impressions in the frontal region such as would be expected with premature closure of the metopic suture, and other authorities believe it to be a mild and incomplete form of the dystrophy producing cyclops.

The differential diagnosis of the craniostenoses is summarized in Table 5.





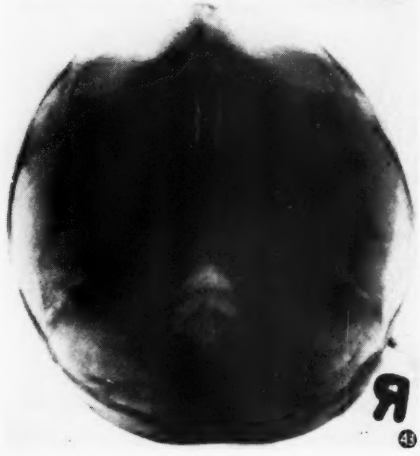
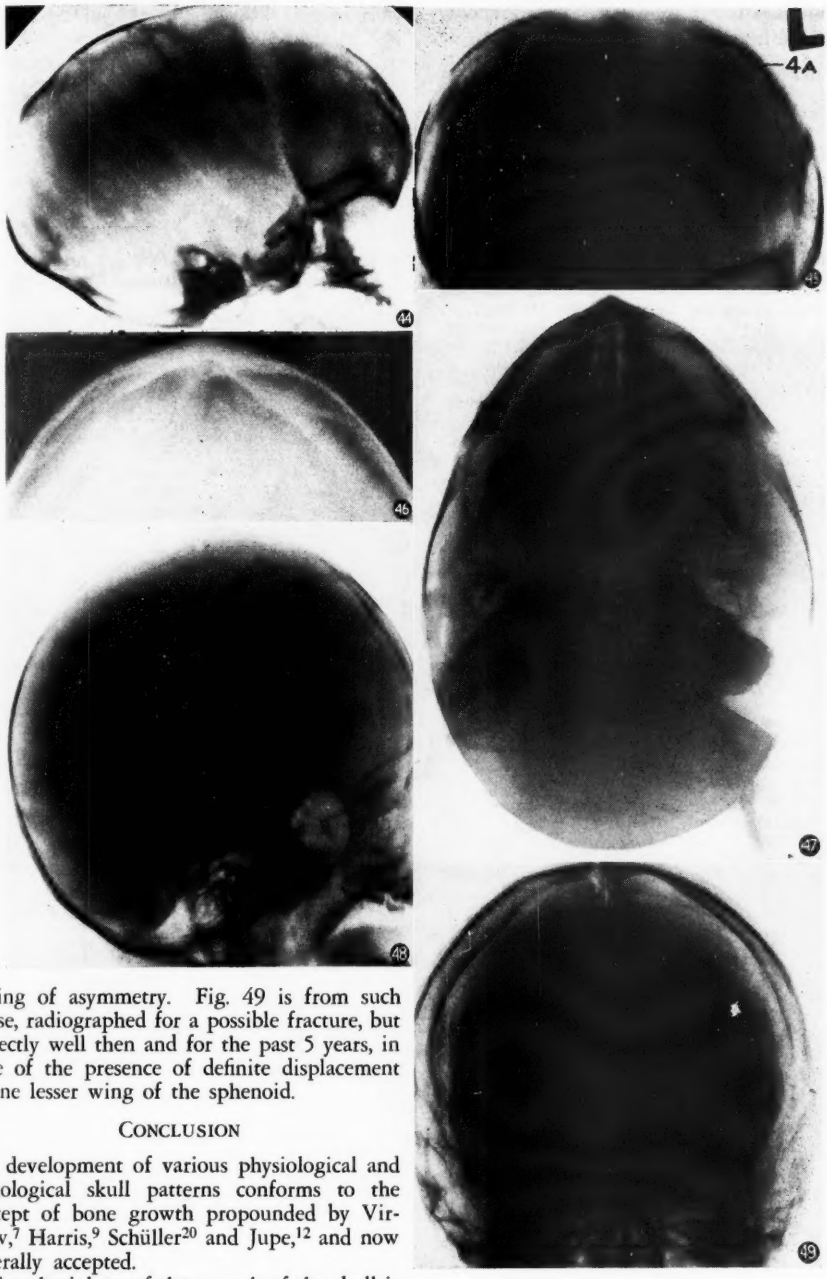


TABLE 5: DIFFERENTIAL DIAGNOSIS OF CRANIOSTENOSIS

Craniostenosis	*Differential Diagnosis*
Plagiocephalic	Asymmetrical skulls
Oxycephalic	Brachycephaly
	Pseudoturricephaly
Scaphocephalic	Doliochocephaly
Microcephalic	Normal microcephaly
	Cerebral atrophy
Trigonocephalic	Luckenschadel

The whole picture may have been somewhat oversimplified, and occasionally one encounters cases that are not readily classifiable, e.g. a combination of hydrocephalus with craniostenosis (Fig. 48), and which defeat any attempt at diagnosis without air contrast studies. Cases also occur in which, on cilinical grounds, no significance can be attached to the



finding of asymmetry. Fig. 49 is from such a case, radiographed for a possible fracture, but perfectly well then and for the past 5 years, in spite of the presence of definite displacement of one lesser wing of the sphenoid.

CONCLUSION

The development of various physiological and pathological skull patterns conforms to the concept of bone growth propounded by Virchow,[7] Harris,[9] Schüller[20] and Jupe,[12] and now generally accepted.

The physiology of the growth of the skull is analysed in relation to cases with asymmetry, and the well-known facts of growth are applied to the differential diagnosis of the craniostenoses.

ADDENDUM

Since this paper was submitted for publication, a case of trigonocephaly with a patent metopic suture has been reported. This proves that

the condition is not due to premature synostosis of the suture.[23]

The author is indebted to the Editors of the *British Journal of Radiology* for permission to republish the material in the first 3 parts of this paper.

OPSOMMING

Gevalle van asimmetrie van die skedel is van belang want menigmaal is daar 'n skynbaar ongeaffekteerde hemicranium wat as kontrole ageer vir die veranderings wat aan die patologiese sy waargeneem word. Hul bestudering bevorder dus ons begrip van die belangrike reaksies van die skedel op binne- en buiteskedel- en skedelpatologie. Radiograwe van die skedel moet in die lig hiervan ondersoek word.

Etlike gevalle van skedelasimmetrie word beskryf, en die volgende klassifikasie word verstrek:

1. *Binne-Skedeloorsake.*

(*a*) Buitensporige groeidrukking:

i. Buite-serebraal, bv. chroniese subdurale hematoom, aneurisme van die inwendige grootnekslagaar.

ii. Binne-serebraal, bv. stadig groeiende gewasse, infiltrerende letsels en cyste.

(*b*) Gebrekkige groei-drukking, bv. die serebrale atrofieë insluitende die Sturge-Weber-sindroom.

2. *Skedeloorsake.*

(*a*) Gebrekkige groei van die nate, bv. craniostenose.

(*b*) Buitensporige groei, soortgelyk aan hemiwerwels.

3. *Buite-Skedeloorsake.* Hulle kan uit endogene of eksogene drukking bestaan, of 'n samevoeging van albei, bv. met langdurige bedlêendheid, verdraaide nek, ens.

Die aandag word ook gevestig op die belangrikheid van die posisie van die kleiner vleuel van die wigbeen. Die verplasing daarvan word soos volg geklassifiseer:

i. *Binne-Skedelmassa.*
Kroniese subdurale hematoom of higroom.
Cyst van die sagte harsingvlies.
Gewas of gliose.
Aneurisme.
Neurofibromatose.

ii. *Serebrale atrofie* en die Sturge-Weber-sindroom.

iii. *Skedel-Patologie.*
Craniostenose.
Aktiewe naatbeen.
Wanstaltige ontwikkeling van vleuels van die wigbeen.

iv. *Oog.*
Agenese.
Verkalkte lens.

Ten slotte word die lesse wat 'n bestudering van skedelasimmetrie oplewer, op die differensiële diagnose van die craniostenoses toegepas.

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RADIOLOGICAL CASE BOOK

1. BROADENING OF THE MEDIASTINAL SHADOW

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and

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History. An attack of coronary thrombosis occurred 2 years ago.

For the past 18 months there has been recurrence of retro-sternal pain with the development of a dry cough, loss of weight and reduced exercise tolerance.

Blood in the sputum was noticed for first time 6 months ago and has remained present ever since then.

Examination. A much enlarged and hard gland was present in the right supra-clavicular region, but otherwise the examination was essentially negative.

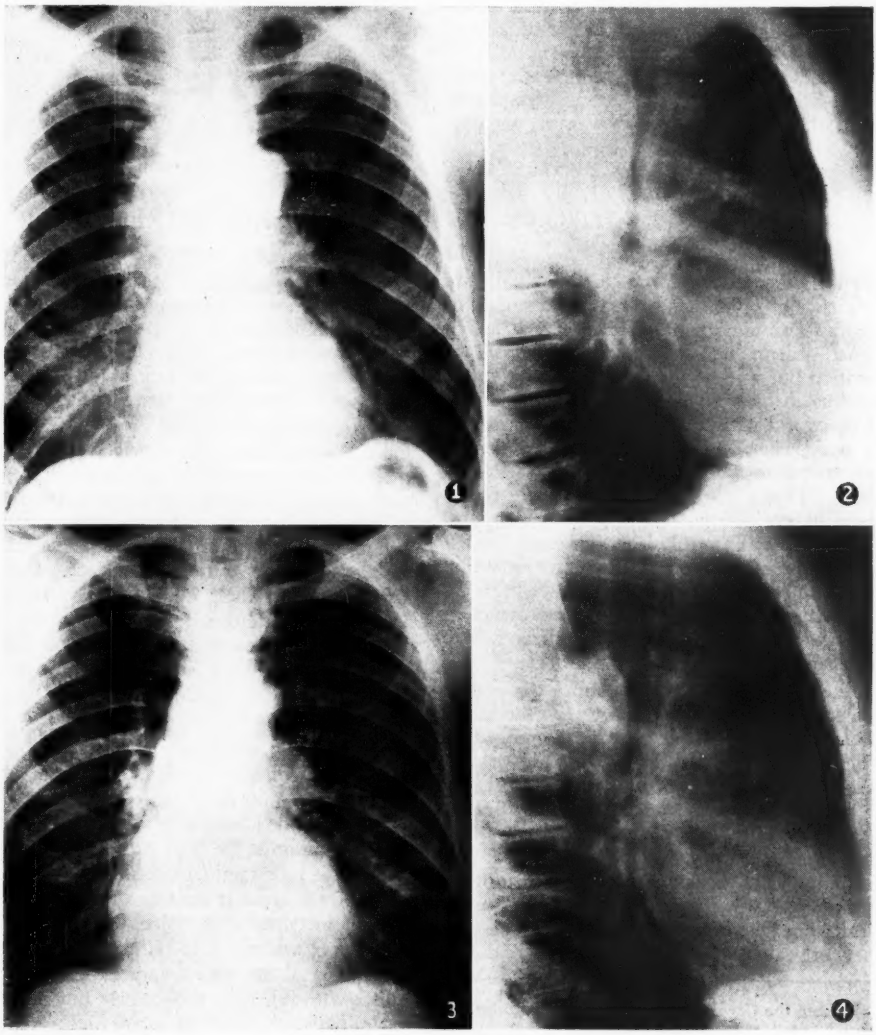
Radiological examination indicated broadening of the mediastinum and the presence of a dense shadow compressing the trachea on the lateral projection (Figs. 1 and 2). Examination of the X-rays taken a few months before at another centre (Figs. 3 and 4) did not show any obvious abnormality on the postero-anterior view, but revealed a filling defect in the trachea on the lateral view, which was overlooked at the previous examination.

Bronchoscopy (by Dr. J. C. van der Spuy) revealed a very small fungating tumour in the posterior wall of the trachea just above the origin of the left bronchus. It had the macroscopic appearance of a carcinoma. A biopsy specimen was taken.

Histological examination suggested an oat-cell carcinoma, but the possibility of a malignant lymphoma could not be excluded.

Treatment. Deep X-ray therapy with a conventional unit was given with a tumour dose of 4,000 r.

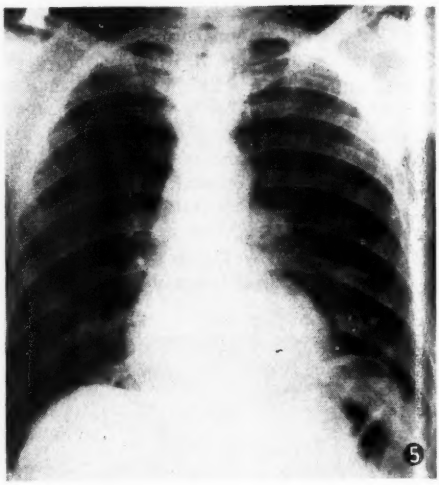
Result. The X-rays taken after the completion of the course showed complete disappear-



ance of the tumour (Fig. 5). The supra-clavicular gland has also disappeared and the patient was completely asymtomatic.

Comments. The following aspects are worthy of comment:

1. The ease with which an intrathoracic neoplasm can be overlooked and the great value of scrutinizing both the postero-anterior and the lateral views;
2. The importance of good X-ray technique to show a relatively minor change such as indentation of the trachea;
3. The difficulty which even the pathologist may encounter in arriving at a final diagnosis. It was not established beyond reasonable doubt whether the mass was a carcinoma or a lymphoma;
4. The value of the radiotherapeutic treatment, which suggests malignant lymphoma rather than carcinoma. It is, however, not possible to be dogmatic about this.



EYE COMPLICATIONS IN PROTEIN MALNUTRITION*

The syndrome characterized chiefly by a dietary deficiency of protein and known by a variety of names—kwashiorkor, fatty liver disease, nutritional oedema and nutritional dystrophy, to mention but a few—is prevalent among young children in most of the malnourished countries of the world. The clinical picture, however, is by no means the same in every detail in the various places where the syndrome is encountered. This is particularly true of the occurrence of eye lesions—an important complication, often leading to loss of sight, that has not in the past always received sufficient attention from clinicians. While the reports of some investigators specifically mention the presence or absence of eye signs, those of others fail to comment on the state of the eyes.

An article on the involvement of the eyes in protein malnutrition will shortly appear in the *Bulletin of the World Health Organization.* The author—Dr. D. S. McLaren of the East African Institute for Medical Research, Mwanza, Tanganyika—has made an extensive review of the literature, including the early as well as the more recent descriptions of the syndrome, and cites many instances of the association of eye changes with protein deficiency. It seems clear from this review, which covers all parts of the world, that the eye complications are due to an accompanying vitamin deficiency (of vitamin A in the case of the blinding conditions such as xerophthalmia and of the B-complex vitamins in the case of certain of the less serious conditions) rather than to the lack of protein itself, as has been suggested by some workers.

A striking report quoted by Dr. McLaren—and one which lends very strong support to the vitamin-definiency theory—comes from Mexico City, where 450 out of 500 sufferers from protein malnutrition were found to present the diminished humidity of the conjunctiva that is characteristic of vitamin-A deficiency. Further investigation of these 450 cases revealed that 78% had early xerosis, 7% had xerophthalmia, 12% had keratitis and 1.3% showed Bitot's spots, and that blood titres of vitamin A and carotene as low as 10–20 units per 100 grams were common.

Theoretically, there are several ways in which lack of protein may adversely affect the metabolism of vitamin A. For example, it may interfere with the absorption, storage or transport of the vitamin in the body or with the conversion of the provitamin, carotene, to the vitamin proper. Or again it may be that a disordered protein metabolism in some way inhibits the function of vitamin A in cellular metabolism—a function about which very little is known, except with regard to the retina. But the practical significance of these factors has yet to be

* From the *Chronicle* of the World Health Organization, April 1958, Vol. 12, No. 4, p. 138.

discovered and, in Dr. McLaren's opinion, a low dietary intake of vitamin A is likely to be the prime cause of the eye complications, and making good the deficiency the best means of preventing them. To quote the concluding words of his article: 'With regard to therapeutic and prophylactic measures, it seems probable from the work which has been done that, even in the absence of gross physical signs, the vitamin-A stores are low in the protein-malnourished child. Consequently, correction of this should be part of any programme of treatment.'

NOTES AND NEWS : BERIGTE

Dr. Arnold Sidley, M.B., B.Ch., (Rand.), D.P.M. (Rand), Neurologist and Psychiatrist, has moved from Harley Chambers to new consulting rooms at 605 Osler Chambers, 215 Jeppe Street, Johannesburg. *Telephone*: 23-8224.

* * *

Dr. O. M. Haarburger (of Cape Town) has returned to South Africa. He has been on an extensive tour of the United Kingdom and Europe and visited clinics in England, Holland, Spain, Switzerland and Austria.

He also attended the Oxford Ophthalmological Congress, and the International Congress of Ophthalmology in Brussels.

* * *

Mr. E. Abro, Ch.M., Urologist, wishes to inform his colleagues that in addition to his rooms at 704 Medical Centre, Jeppe Street, he has opened rooms at 102 Southern Medical Centre, Rosettenville. *Telephone*: 26-2650.

Dr. E. Abro, Ch.M., Uroloog, wens sy kollegas in kennis te stel dat hy bykomstige spreekkamers te Southern Medical Centre 102 (Rosettenville), geopen het. *Telefoon*: 26-2650.

* * *

Mr. David Adler and Mr. Denis Fuller, consultant thoracic surgeons, of 6th Floor, Florence Nightingale Building, Hospital Hill, wish to inform their colleagues that from 1 October 1958 their new address will be: Third Floor, Clarendon Centre, Park Lane (off Clarendon Circle), Parktown, Johannesburg. The telephone numbers will remain the same: 44-2979 and 44-2362.

Dr. David Adler en dr. Denis Fuller, konsulterende borschirurge van Sesde Verdieping, Florence Nightingale-gebou, wens hul kollegas in kennis te stel dat hul adres vanaf 1 Oktober 1958 die volgende sal wees: Derde Verdieping, Clarendon Centre, Parklaan (naby Clarendon Verkeersirkel), Parktown, Johannesburg. Die telefoon nommers sal dieselfde bly: 44-2979 en 44-2362.

* * *

A very beautifully illustrated monograph on the history of medicine by Ernst Königer has been issued by the Sandoz organization under the title *Aus der Geschichte der Heilkunst.*

The text is in German and there are 50 beautiful half-tone plates in addition to 4 colour plates and a great number of line drawings in the text.

A limited number of copies is available for distribution in South Africa. Those interested should write direct to Dr. P. Stein, Sandoz Limited, P.O. Box 4461, Johannesburg.

Mr. Isadore Kaplan, F.R.C.S. (England), F.R.C.S. (Edinburgh), has returned to Johannesburg after 3 years post-graduate study in England and America.

* * *

MEDICAL MEMBERS OF PARLIAMENT

V: Mr. A. Radford, M.P. (*Durban Central*).

* * *

A SOUTH AFRICAN COLLEGE OF GENERAL PRACTITIONERS

At a meeting of the National Executive of the General Practitioners Group held in Pretoria on 30 September 1958, it was unanimously resolved that a Faculty of the College of General Practitioners (in the United Kingdom) should be established in South Africa.

Dr. Ian D. Grant (President of the College of General Practitioners in England and who recently toured South Africa) was present at the meeting, which was a climax to his very successful tour of the Union.

The objects of the College of General Practitioners will be generally to enhance the professional status of the general practitioner and to co-operate (and not compete) with practitioners in any other branches of medicine.

The College will also concern itself with the undergraduate curriculum, post-graduate teaching and clinical research. South African practitioners will be interested to hear that at the meeting Dr. Grant stated that in his view the standard of general practice in South Africa was the highest he had encountered in the course of extensive tours all over the world.

South African Faculties have not yet been established. Further details will be announced in due course. In the meantime, practitioners interested may communicate with:

Dr. Leslie Levy, Honorary Secretary,
National General Practitioners Group,
Medical House,
5 Esselen Street, Johannesburg.

THE 7TH INTERNATIONAL CONGRESS OF BLOOD TRANSFUSION

Forty-two nations were represented at the 7th International Congress of Blood Transfusion held at the Palazzo dei Congressi in Rome, and the South African flag flies with the others in the Congress square.

Dr. M. Shapiro (Medical Director of the S.A. Blood Transfusion Service, Johannesburg), was President of the Section of the Congress devoted to *Organization and Technical Problems of Blood Transfusion.*

At the meeting of the General Assembly of the International Society a new constitution was adopted, providing for 6 Regional Counsellors to be members of the Executive Council of the Society—one each for Africa, Europe, Asia, North America, Latin America, Oceania and Australia. Dr. M. Shapiro was re-elected to the Executive Council for a further 4 years in the capacity of Regional Counsellor for Africa. The special duty of the Regional Counsellors is to co-ordinate blood transfusion activities in their regions.

At this meeting, The South African Blood Transfusion Service was also officially admitted as a corporate member of the International Society. Corporate membership is restricted to organizations, associations and services of a non-profit making nature of international, regional or national reputation.

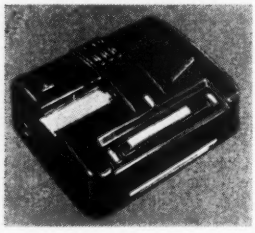
In London, Dr. Shapiro attended a meeting of the International Standards Organization called to consider the standardization of blood transfusion equipment.

PREPARATE EN TOESTELLE

CARDIOMAT

Die Siemens *Cardiomat,* 'n direk aanwysende elektrokardiograaf, is 'n ligte, maklik vervoerbare en tog stewig geboude instrument met talle nuwe kenmerke om volmaakte aantekeninge in alle omstandighede te verseker.

Ononderbroke aantekeninge van die geleidings word bewerkstellig deur middel van 'n tydbesparende drukknop-selektor behelsende outomatiese en ononderbroke geleidingsmerke.



'n Volmaak stabiele basislyn word dwarsdeur die hele aantekening verseker deur elektronies gereguleerde kragvoorsiening wat in staat is om uiterste wisselings in die stroomspanning van die hoofleiding die hoof te bied.

Die aantekeningstelsel is voorsien van 'n stewige skryfnaald met 'n punt wat met hitte behandel is. Die maksimum-sensitiwiteit van die instrument is 23 mm. per millivolt, en desverkiesend kan daar voor of tydens 'n aantekening deur middel van 'n sensitiwiteitselektor na normale sensitiwiteit (10 mm. per mv.), of halwe (5 mm. per mv.) of dubbele sensitiwiteit (20 mm. per mv.) oorgeskakel word.

Voorsiening word gemaak vir twee papiersnelhede, 25 en 50 mm. per sekonde. Die verhoogde frekwensie-reaksie van die aantekeningstelsel bied u 'n elektrokardiogram waarop die fynste besonderhede duidelik sigbaar is.

Suid-Afrikaanse Verspreiders: Protea Holdings Ltd., Posbus 7793, Johannesburg. *Telefoon*: 33-2211.

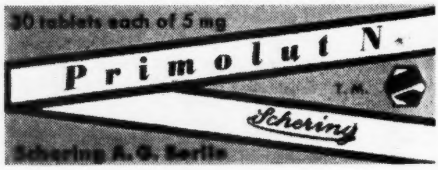
PRIMOLUT N

Samestelling en Effek: Iedere tablet *Primolut N* bevat 5 mg. anhidro-hidroksi-nor-progesteroon. Hierdie stof is 'n nuwe progestogeen wat doeltreffend is as dit peroraal toegedien word. Dit besit 'n hoë mate van biologiese bedrywigheid.

Met die beskikbaarstelling van *Primolut N* het dit moontlik geword om werklik doeltreffende mondelinge progestogeenterapie in te stel. Terapie met *Primolut N* voldoen aan die jongste vereistes in verband met die peil van natuurlik geproduseerde corpus luteum-hormone. Die preparaat beantwoord aan die strengste maatstawwe vir 'n doeltreffende progestogeeneffek wat deur moderne navorsingswerk vereis word.

Transformasie van die Baarmoederslymvlies in die Afskeidingsfase. Met 'n totale dosis van ongeveer 100-150 mg. (10-15 mg. op elk van 10 agtereenvolgende dae) is dit moontlik om 'n afskeidende baarmoederslymvlies op te bou.

Basale Temperatuurverhoging. 'n Verhoging van die oggendtemperatuur word waargeneem by die pasiënt wat met *Primolut N* behandel word—net soos in die geval van progesteroonterapie.



Indikasies en Dosis. Die toediening van *Primolut N* word aangedui in alle gevalle waar corpus luteumterapie die geskikte behandeling is. Met behulp van *Primolut N* is dit moontlik om 'n egalige, ononderbroke progestasie-effek tot stand te bring.

Primêre en Sekondêre Amenoree van Langer Duur. Vir die voortbrenging van maandstondbloeding is voorafgaande behandeling met estrogene noodsaaklik, bv. een tablet *Primogyn C* (etinielestradiol) 3 maal per dag op 23 agtereenvolgende dae. Vanaf die 14de tot die 23ste dag van die kunsmatig geproduseerde siklus ontvang die pasiënt 'n aanvullende dosis bestaande uit 1 tablet *Primolut N* 3 maal per dag.

Dreigende Miskraam. Die behandeling begin met 2 tablette 3 maal per dag. Sodra die bloeding ophou, word die behandeling voortgesit met 1 tablet *t.d.s.,* wat tot 1 tablet *b.d.* verminder word tydens die eerste helfte van die swangerskap.

Gewoonte-miskrame. As die pasiënt 'n neiging tot gewoonte-miskrame toon, word daar aanbeveel dat 1 tablet *Primolut N* twee maal per dag geneem moet word vanaf die begin van die swangerskap tot onge-

veer 4 weke na die oomblik waarop vroeëre swangerskappe in 'n miskraam geëindig het.

Uitstel van Maandstonde. Dit kan bewerkstellig word deur die toediening van 2 tablette *Primolut N* per dag 2 dae voor die verwagte maandstond. Die normale vloei vind plaas 2 dae nadat die behandeling gestaak is.

Aanbieding: Buisies bevattende 30 tablette van 5 mg. elk.

Alleenagente vir Suid-Afrika: Berlimed (Pty.) Ltd., Posbus 10259, Johannesburg, vir Schering A.G., Berlyn (Duitsland).

PARENTROVITE

Die doel van *Parentrovite*-behandeling is om die konsentrasie van sekere vitamiene van die B-kompleks en askorbiensuur in die weefsels tot 'n peil te verhoog wat terapeuties doeltreffend is.

Aangesien etlike lede van die B-kompleks, en veral nikotinamied en B_1, bestanddele is van die koënsieme wat betrokke is by die vrystelling van energie tydens weefseloksidasie, word 'n versteuring op enige plek in hierdie ensiemstelsels deurgaans weerspieël. Proefondervindelik is daar reeds aangetoon dat vir herstel van normale wisselwerking tussen ensiem en koënsiem die konsentrasie van laasgenoemde enorm vermeerder moet word.

Alkohol, barbiturate, enkele alkaloïede en sommige infeksies veroorsaak versteuring van die binneselse ensiemstelsels wat by glukose-oksidasie betrokke is. Hierdie stremmende effekte word teëgewerk deur faktore van die B-kompleks en deur vitamien C.

Enige spanning, maar veral traumatiese skok indien dit ernstig of van lange duur is, verminder die weefselpeil van askorbiensuur.

Hierdie oorwegings stem ooreen met die kliniese waarneming van die toestande wat met massiewe dosisse van die B-kompleks en askorbiensuur behandel is.

Goeie resultate is gerapporteer by die behandeling van delirium en koma ten gevolge van alkohol en barbiturate; die verwarring en neerslagtigheid wat op influensa, pneumonie en chirurgiese operasies kan volg; in sommige gevalle van ouderdomsagteruitgang; en die ietwat seldsame voorkoms van psigiatriese simptome volgende op isoniasiedterapie.

Indikasies: In geskikte toestande herstel *Parentrovite* die bewussyn van bewustelose of ylhoofdige pasiënte. Dit kalmeer verwarde, opgewonde en wangeörienteerde pasiënte en gee hulle die vermoë om weer eens rasioneel te dink; dit herstel die soberheid van die ongekontroleerde en ylhoofdige alkoholis; dit bespoedig herstel na 'n ernstige siekbed of operasie, en dit bevorder die algemene fisiese en geestelike welsyn.

Ander toestande waar voordeel gerapporteer is: Akute en chroniese lewerontsteking; hyperemesis gravidarum; swangerskapstoksemie; neerslagtigheid tydens chroniese siekte; en menopause-neerslagtigheid.

Dosis: *Die nagevolge van influensa en ander infeksies; neerslagtigheid en verwarring na 'n operasie, tydens die menopause of na 'n siekte, swakheid en gebeueverlies by ou mense.*

Een paar hoogs kragtige ampulle per dag gedurende die eerste 3 of 4 dae; dan een paar binnespierse instandhoudingsampulle al om die ander dag totdat volkome herstel bewerkstellig is.

Alkoholisme: Tydens die akute toestand moet die inhoud van 4 paar hoogs kragtige ampulle binneaars toegedien en die dosis (of die helfte daarvan) binne 4–8 uur herhaal word.

Chroniese Alkoholisme: Daaglikse inspuitings van hoogs kragtige *Parentrovite*, gevolg, na die eerste 4 dae, deur binnespierse instandhouding, daagliks toegedien.

Verslaafdheid aan Barbiturate: Enige akute toksisiteit moet behandel word met hoogs kragtige ampulle (twee of meer paar per dag), maar dit kan opgevolg word deur instandhoudingsdosisse elke dag, of al om die ander dag.

Te Groot Dosisse: Simptome van te groot dosisse is buitengewoon seldsaam. Geen gevalle van die skokagtige effek wat in seldsame gevalle waargeneem is ná die inspuiting van massiewe dosisse B_1 alleen, is gerapporteer nie.

Die enigste newe-effekte wat waargeneem is, was: ligte en verbygaande parestese ('n gevoel van koue in die vel), ligte hipotensie (wat maklik teëgewerk kan word deur die inspuiting van 25 mg. kalsiumpantotenaat), en ligte, verbygaande koorsigheid.

Ongerieflike randstandige vatverwyding kan vermy word deur die gebruik van nikotinamied liewer as nikotiensuur.

Fabrikante: Vitamins Limited, Upper Mall, Londen, W.6, Engeland.

ELASTOPLAST-NOODHULPPOMMADE

SMITH & NEPHEW STEL 'N NUWE NOODHULPPOMMADE BEVATTENDE DOMIFENBROMIED BESKIKBAAR

Elastoplast-noodhulppommade bevat domifenbromied,* 'n moderne ontsmettingsmiddel van die K.A.S.-tipe. Na uitgebreide navorsingswerk is dit gekies as die doeltreffendste algemene ontsmettingsmiddel wat vandag beskikbaar is. Omdat dit kieme baie vinnig vernietig, voorkom dit die besmetting

* Domifenbromied is die B.P.C.-naam vir dodesieldimetiel-2-fenoksi-etiel-ammoniumbromied.

van beserings en werk vinnige genesing in die hand. Hierdie ontsmettingsmiddel is 'n verbetering op die ouer tipes omdat dit 'n breë doeltreffendheidsbestek teen al die gewone mikro-organismes het, en ook omdat die effek daarvan geensins geaffekteer word deur die aanwesigheid van etter of bloed nie.

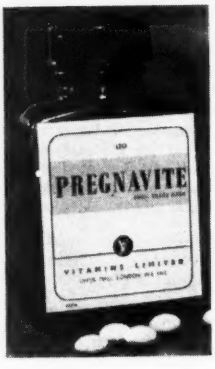
Afgesien van die feit dat die pommade in noodgevalle gebruik kan word, kan dit ook as 'n antiseptiese ‚handskoen' gebruik word deur siekekamerhelpers, dokters, verpleegsters, ens. wat besmette materiaal moet hanteer. As dit aan die hande gesmeer en ingevryf word, verdwyn die pommade, maar dit laat 'n doeltreffende antiseptiese film na om die hande teen infeksie te beskerm.

Elastoplast-noodhulppommade is verkrygbaar in aantreklike opvoubare buisies, en dokters word uitgenooi om om monsters en leesstof te skryf.

PREGNAVITE

'N ENKELE BYVOEGSEL VIR VEILIGER SWANGERSKAP

Tydens swangerskap moet die dieet nie alleen die basale voedingstowwe aan sowel die moeder as die ontwikkelende fetus verskaf nie, maak *ook* die faktore wat nodig vir hul metabolisme is. Hierdie



behoeftes is sorgvuldig aan die hand van verskillende voedingsopnames bereken, en vorm die basis van die *Pregnavite* formule.

In die vorm van 'n enkele preparaat verskaf *Pregnavite* dus 'n omvattende verskeidenheid van die vitamiene en minerale wat noodsaaklik vir die welsyn van die moeder is. Dit is 'n doeltreffende dieetbyvoegsel vir die instandhouding van blakende gesondheid solank swangerskap duur, en vir die beskerming van die moeder teen sulke verwikkelinge soos toksemie, hipochromiese bloedarmoede, tandverrotting en 'n onvermoë om haar babetjie aan die bors te voed.

Verpakking: Verkrygbaar in pakkies van 60 en 120 tablette. Toebereidingspakkies van 1,000.

Fabrikante: Vitamins Limited, Upper Mall, Londen, W.6, Engeland.

PREPARATIONS AND APPLIANCES

CARDIOMAT

The Siemens *Cardiomat* Direct-Writing Electrocardiograph is a light, easily carried, yet sturdily constructed instrument, embodying many novel features to ensure perfect recordings in all circumstances.

Continuous recording of the leads is accomplished by means of a time-saving push-button selector, incorporating automatic and continuous lead-marking.

A perfectly stable baseline is ensured throughout the entire recording by an electronically regulated power supply, which is equipped to cope with extreme mains voltage fluctuations.

The recording system makes use of a sturdily constructed heated-tip stylus. The maximum sensitivity of the instrument is 23 mm. per millivolt and normal sensitivity (10 mm. per mv.), half (5 mm. per mv.) or double sensitivity (20 mm. per mv.) may be adjusted at will before or during recording by means of the sensitivity selector.

Two paper speeds, 25 and 50 mm. per second, are provided. The increased frequency response of the recording system produces an electrocardiogram on which the minutest details are clearly visible.

South African Distributors: Protea Holdings Ltd., P.O. Box 7793, Johannesburg. *Telephone*: 33-2211.

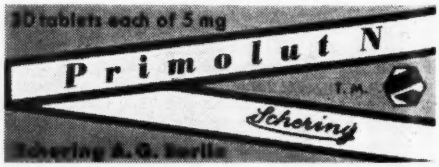
PRIMOLUT N

Composition and Action: *Primolut N* contains 5 mg. per tablet of anhydro-hydroxy-nor-progesterone. This substance is a new progestogen which is effective perorally. It possesses a high degree of biological activity.

With the introduction of *Primolut N* it is possible to institute really effective oral progestogen therapy. Therapy with *Primolut N* conforms to the latest work on the level of naturally produced corpus luteum hormone. The preparation fulfils the strict criteria laid down by modern research for an adequate progestogenic effect.

Transformation of Endometrium to the Secretory Phase. Employing a total dosage of approximately 100-150 mg. (10-15 mg. on each of 10 consecutive days), it is possible to build up a secretory endometrium.

Basal Temperature Elevation. An elevation of the morning temperature is observed in the patient under *Primolut N* treatment as in progesterone therapy.



Indications and Dosage. The administration of *Primolut N* is indicated in all conditions in which corpus luteum therapy is the appropriate treatment.

Using *Primolut N* it is possible to produce a steady, continuous progestational effect.

Primary and Secondary Amenorrhoea of Longer Duration. For the production of a menstrual bleeding a pre-treatment with oestrogens is necessary, e.g. one tablet *Primogyn C* (ethinyl oestradiol) 3 times a day for 23 days. From the 14th-23rd day of the artificially produced cycle the patient receives a supplementary dose consisting of one tablet of *Primolut N* 3 times a day.

Threatened Abortion. Treatment is commenced with 2 tablets 3 times a day. As soon as bleeding ceases, treatment is continued with 1 tablet *t.d.s.* reduced to 1 tablet *b.d.* during the first half of the pregnancy.

Habitual Abortion. In the tendency to habitual abortion it is recommended that 1 tablet of *Primolut N* twice a day be taken from the beginning of pregnancy until approximately 4 weeks after that moment at which earlier pregnancies terminated in an abortion.

Postponement of Menstruation. This may be achieved by administering 2 tablets of *Primolut N* daily 2 days before the expected period. The normal flow occurs 2 days after cessation of the treatment.

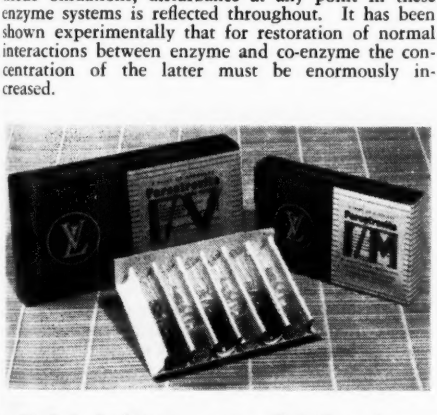
Presentation. Tubes containing 30 tablets each of 5 mg.

Sole South African Agents for Schering A.G. Berlin (Germany): Berlimed (Pty.) Ltd., P.O. Box 10259, Johannesburg.

PARENTROVITE

Parentrovite treatment is aimed at raising the tissue concentration of certain vitamins of the B complex and ascorbic acid to levels therapeutically effective.

Since several members of the B complex, and especially nicotinamide and B_{12}, are components of co-enzymes involved in the release of energy in tissue oxidations, disturbance at any point in these enzyme systems is reflected throughout. It has been shown experimentally that for restoration of normal interactions between enzyme and co-enzyme the concentration of the latter must be enormously increased.



Alcohol, barbiturates, some alkaloids and some infections cause disturbances in intracellular enzyme systems concerned in glucose oxidations. These inhibitory effects are reversed by factors of the B complex and by vitamin C.

Any stress, but particularly traumatic shock, if severe or prolonged, lowers the tissue levels of ascorbic acid.

These considerations are in line with clinical observations on conditions treated with massive doses of the B complex and ascorbic acid.

Good results have been reported in the treatment of delirium and coma from alcohol and barbiturates; in confusion and depression following influenza, pneumonia and surgical operations; in some cases of senile deterioration and in the somewhat rare occurrence of psychiatric symptoms following isoniazid therapy.

Indications: In the appropriate conditions *Parentrovite* restores consciousness to comatose or delirious patients, restores a calm attitude and the ability to think rationally to the confused, excitable and disorientated, restores to soberness the uncontrolled or delirious alcoholic, speeds recovery after severe illness or operation, promotes general physical and mental well-being.

Dosage: *After-effects of influenza and other infections; depression and confusion, post-operative, menopausal or after illness, debility and loss of memory in old people.*

One pair of high potency ampoules, daily for the first 3 or 4 days; then one pair of intramuscular maintenance ampoules on alternate days until recovery is complete.

Alcoholism: In the acute condition, the contents of 4 pairs of high potency ampoules should be given intravenously and the dose (or half the dose) repeated in 4–8 hours.

Chronic Alcoholism: Daily injections of high potency *Parentrovite* followed after the first 4 days by intramuscular maintenance, given daily.

Habituation to Barbiturates: Any acute toxicity must be treated with high potency ampoules (two or more pairs daily), but this can be followed by maintenance doses every day or every other day.

Overdosage: Symptoms from overdosage are extremely rare. No instances have been recorded of the shock-like effects which have on isolated occasions been observed after the injection of massive doses of B_1 alone.

The only side effects which have been noted are: mild and transient paraesthesia (feelings of cold in the skin), slight hypotension (easily corrected by 25 mg. calcium pantothenate given by injection), transient mild pyrexia.

Uncomfortable peripheral vasodilation is avoided by the use of nicotinamide in preference to nicotinic acid.

Manufacturers: Vitamins Limited, Upper Mall, London, W.6, England.

ELASTOPLAST FIRST AID CREAM

SMITH & NEPHEW INTRODUCE A NEW FIRST AID CREAM CONTAINING DOMIPHEN BROMIDE

Elastoplast First Aid Cream contains Domiphen Bromide,* a modern antiseptic of the Q.A.C. type. It was selected after extensive research as the most effective general antiseptic available to-day. It rapidly kills germs and thereby prevents infection of injuries thus permitting rapid healing. This antiseptic is an improvement upon older types because of its wide range of effectiveness against all the common micro-organisms and also because it retains its activity in the presence of pus and blood.

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* Domiphen Bromide is the B.P.C. name for Dodecyl-dimethyl-2-phenoxyethyl-ammonium bromide.

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A SINGLE SUPPLEMENT FOR SAFER PREGNANCY

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REVIEWS OF BOOKS

FUNCTIONAL TESTS IN MEDICINE

Klinische Funktionsdiagnostik. By H. Küchmeister, assisted by W. Bolt, H. Goldeck and H. Hamm. Cloth. 445 pages. Georg Thieme, Stuttgart 1958. 2nd edition.

The very fruitful functional approach in medicine has led to detailed studies, not only of the function of organs, but of organ systems. This book is presented as the practical experience, particularly of the chief author, in the various functional tests applied in leading German clinics. It is not just a compilation of all possible tests but a selection based on and tested by own practical experience. First published in 1955 it has already graduated into a second edition.

The approach is that of the clinician versed in the essential chemical and physical techniques.

The first 5 chapters (100 pages) cover functional diagnosis of disturbances of the pituitary, thyroid, parathyroid, adrenals and gonads. The cardiovascular field is discussed in an extensive section (70 pages), a chapter each being devoted to the heart, to the peripheral vessels and to the capillaries, respiratory system, blood diseases, renal conditions, gastric, gall bladder and pancreatic tests, liver function and finally general metabolism tests, all similarly covered in varied detail.

The practical approach is well illustrated by numerous sketches of methods, graphs of normal scatter, balance charts, examples of readings and formulae for estimation. Chemical and physical methods are both well demonstrated.

Quite a number of tests are described which are not in general use in South Africa and appear to deserve attention. Many chemical procedures mentioned are outside the scope of local clinicians who, if at all, have only limited laboratory facilities. It is customary on the continent for the chief clinical departments to have their own well-equipped laboratories. In this regard the field overlaps with that of the chemical pathologist, but serves a useful purpose in keeping the clinician abreast of the potential assistance to be gained from this quarter.

Selection and emphasis necessarily vary according to local common usage, but appears to be well grounded on experience or the literature. References are extensive (33 pages) and collected from European and American sources grouped according to the chapters. A handy list of author references assists in tracing particular methods described by them.

Excellent paper, clean print and a fairly easy style facilitate reading. This is a book warmly recommended to the clinician making full use of all the techniques at his direct disposal or available through laboratories.

FRACTURES AND DISLOCATIONS

Fractures and Dislocations. By George Perkins, M.C., M.Ch., F.R.C.S. 1958. (Pp. 363 + Index with 255 Figures). London: The Athlone Press, University of London.

Several good books have been published on this subject in the last decade, but one regrets to admit that apart from the *Preface* and a healthy conservative attitude towards the treatment of some fractures, this publication is disappointing.

George Perkins first published a book on fractures in 1940, which was mainly noted for its excellent line drawings. This new book is illustrated by very good X-ray pictures and photographs, but the author has over-simplified the treatment of fractures and dislocations.

The medical student will derive some benefit from the first 4 chapters on classification and diagnosis of fractures and the stages of bone repair and principles of treatment, but the text thereafter is so permeated with controversial statements that one feels hesitant about recommending the volume.

On page 40 he author makes the astonishing observation that 'antiseptics are of no avail in getting rid of bacteria.' On page 79 in the discussion of *Injuries of the Spine* he blithely states that 'neither crushing, nor subluxation, nor wrongly positioned facets, interferes afterwards with function.'

Surely it is wrong to advise that weight-bearing is safe immediately after intramedullary nailing of a fractured femur?

In Pott's fracture of the ankle he allows the patient to walk without immobilization, if the talus shows no displacement.

After screwing a fractured medial malleolus of the ankle he does not apply a plaster cast.

Poor colloquialisms appear in the text, e.g. 'After exposure the bone ends are got end-on by means of bone-levers' and also 'the aetiology is a guess.'

One of the redeeming fetures of this book is the *Preface* in which the author describes his method of placing fractures and dislocations into 3 categories—those which can be safely and competently treated by the patient's own doctor; those which are within the province of any doctor who has access to a hospital and operating theatre; and those which require the responsibility and treatment of an orthopaedic surgeon. These are indicated by marking the various chapters with one, two or three stars.

PHARMACOLOGY AND THERAPEUTICS

An Introduction to Pharmacology and Therapeutics. By J. A. Gunn with the Assistance of J. D. P. Graham. 1958. (Pp. 316 + Index. 18s.). 9th ed. London: Oxford University Press.

The new edition of this *Introduction* will be welcomed by students and practitioners all over the English-speaking world. Professor Gunn's presentation escapes the deadly pattern of the drug catalogue, so characteristic of so many accounts of pharmacology and therapeutics which the unfortunate student must endure.

The importance of the new edition is its great value to the medical practitioner, who will find within its concise compass a useful guide to modern developments in therapeutics.

The section on antibiotics reads easily and instructively and the hormones derived from the adrenal cortex receive adequate mention.

The existence of this *Introduction to Pharmacology and Therapeutics* should render superfluous many catalogues of drugs and their doses which masquerade as textbooks of pharmacology for the medical student.

DRUGS OF CHOICE

Drugs of Choice 1958-1959. Ed. by Walter Modell, M.D. 1958. (Pp. 882 + Index. With Figs. £5 8s. 6d.). St. Louis: C. V. Mosby Company.

This book, according to the Editor, was compiled to fulfil a particular need in clinical practice. It was not intended to be an authoritative text on pharmacology, but a series of considered opinions by men with experience and judgment, on the drugs of choice in various conditions. Each group of drugs has been dealt with under the general headings: *Introduction, Clinical Applications, General Pharmacological Considerations, The Several Drugs, A Design for the Use of these Drugs, The Rational Basis for the Development of New Drugs.*

The hard pressed practitioner loth to read and assess details of conflicting experiments and controversial points of view, might hope to find in such a book decisive informed opinions on the best preparation to use in a particular condition; and in many chapters this is what he will find. Some Sections, however, consist largely of discussions of the actions and uses of the relevant drugs without the expected definitive conclusions about their relative values. In a book of 35 chapters with 37 contributors some unevenness is perhaps to be expected.

Many Sections have crisp summaries of the physiological actions of the agents dealt with but in a few, as, e.g. in that on the choice of a diuretic, the considerations of the mode of action of the drugs has been reduced so drastically as to detract from the value of the discussion. Consonant with the frequency and importance of pain as a symptom, there is an extensive and excellent Section on the physiology and pharmacology of pain, occupying 60 of the 882 pages of the text. In addition to Sections covering the main groups of drugs there are chapters which, like the one on the choice of an antitussive, deal expertly with subjects often glossed over in standard pharmacology texts but which are of considerable practical importance.

All in all, for those who prefer a clinically oriented text on drugs, this should prove a useful and satisfactory reference book.

GENERAL PRACTITIONERS AND PUBLIC HEALTH TRAINING

Conference on Public Health Training of General Practitioners: Report. World Health Organization: Technical Report Series, 1957, No. 140, pp. 21. 1s. 9d. Pretoria: Van Schaik's Bookstore (Pty.) Ltd., P.O. Box 724.

In many countries, general practitioners are required, in addition to their private practice, to devote part of their time to public health activities. They are thus called upon to play an important part in the protection of public health—a role for which they have not always received adequate training. WHO called a Conference in October-November 1956 to discuss this problem.

The main tasks of the Conference were to examine the reasons for the frequent indifference of general practitioners to public health questions, to seek a means of arousing their interest in them, and to establish certain general principles for the guidance of those responsible for the organization of the public health training of general practitioners.

It was agreed that the first cause of this indifference is to be found in the present university and post-university curricula, which lay the main emphasis on diagnostic and therapeutic aspects and pay too little attention to preventive and social aspects. This is a gap which has to be bridged if the general practitioner is to be able to fulfil his public health role efficiently. Another reason for the lack of interest is that the young medical graduate finds the prestige and material compensations of private practice more attractive than those of public health work.

If the general practitioner's interest in public health work is to be aroused, the health authorities have to keep him informed about their plans for

collective activities and (whenever possible) invite his participation. For his part, the practitioner should realize that, even from the standpoint of individual therapeutic care, there are advantages in having a modern public health service at his disposal.

There are various ways of maintaining effective liaison between the health administration and general practitioners, including periodic health bulletins, personal contacts, organization of meetings, etc. Courses and seminars in which general practitioners are invited to participate are particularly helpful, and in several countries excellent results have been obtained by international teaching teams which have organized lectures and discussions on public health in hospital centres.

The *Report* examines in detail the organization of courses for part-time public health medical officers and the various related problems including time and place of courses, selection of teachers, content and arrangement of syllabuses. It was agreed that there should be as little didactic teaching as possible and that much time should be given, on the other hand, to discussion, seminars and practical work. If physicians are to become familiar with the nature and aims of public health activities; if they are to take as much interest in these as in the other aspects of their profession, and if they are to acquire the necessary technical competence, training programmes should cover, *inter alia*, the following subjects: the role of the physician in society; the role of the public health administration; reciprocal collaboration; collective medical assistance; vital and health statistics; epidemiological methods; environmental sanitation; importance of external services (social service); interrelationship of curative and preventive medicine.

This instruction should be consolidated by exchanges of correspondence, by meetings arranged for the purpose of keeping the general practitioner abreast of important developments (e.g. the technique of a new vaccination) and by the publication of informative material. The appearance of regular articles and features in professional journals, and the showing of documentary films in the hospitals or during medical conferences, can also be very useful.

MALARIA

Malaria Conference for the Eastern Mediterranean and European Regions: Report. World Health Organization: Technical Report Series, 1957, No. 132; pp. 47. Is. 9d. Pretoria: Van Schaik's Bookstore (Pty.) Ltd., P.O. Box 724.

The present status of malaria in the Eastern Mediterranean and European Regions is fully dealt with in this *Report* recently published by WHO. Information concerning morbidity rates, numbers of population living in malarial areas, methods of protection, spraying cycles and costs in these regions is included in an *Annexure* to this *Report*. The recording of malaria statistics is the subject of an additional *Annexure* with the recommendation that, in view of the present misleading definition of the term 'morbidity cases', statistics should differentiate between laboratory and clinically diagnosed cases when recording annual malarial cases.

The *Report* refers to the resistance of other vectors in addition to *A. sacharovi* to certain insecticides and to the advisability of obtaining detailed information concerning the susceptibility of vectors by testing both before and during malaria eradication programmes. The difficulties with which spraying operations in certain areas are faced is also made apparent in the report, due not only to local conditions, such as the existence of rice fields, but also to movements of the population, pilgrimages and the seasonal migrations of nomadic tribes.

Mention is also made of certain pitfalls in planning operations and in the administration of malaria eradication services. Useful recommendations are made in the *Report* to overcome these by improved organization and with the continued support of WHO.

WATER FLUORIDATION

Expert Committee on Water Fluoridation: First Report. World Health Organization: Technical Report Series, 1958, No. 146. (Pp. 25. 1s. 9d.). Pretoria: Van Schaik's Bookstore (Pty.) Ltd., P.O. Box 724.

Dental caries affects people of all ages and in every walk of life in all parts of the world. Enormous sums are expended on its treatment. The present report deals with its prevention by fluorides, on the basis of experiments carried out in recent years both amongst population groups and in laboratories.

In the United States, 32 million people drink fluoridated water. Fifteen other countries have already undertaken the controlled fluoridation of water-supplies. After thorough examination of studies on the biological action of fluorine on the cells and organs (hard tissues, kidney, thyroid, teguments), and on its metabolism (absorption, distribution, storage, excretion), the Committee asserts that fluorides are perfectly harmless when ingested at the optimal concentrations for the prevention of dental caries, i.e. one part per million in drinking water. Their favourable action on the teeth, at all ages, has been proved.

The report concludes with technological considerations on the fluoridation of water and with mention of alternative means of ensuring an intake of fluorine.

CORRESPONDENCE

THE MEDICAL COUNCIL

To the Editor: I write to congratulate you on your outstanding editorial analysis of the composition and functions of our Medical Council* and unhesitatingly support the measures you propose in order to deal with the situation.

Every medical practitioner who has the interests of the medical profession at heart will applaud your views.

J. Penn, F.R.C.S.

Clarendon Centre,
Clarendon Circle,
Johannesburg.

* This Journal 6 September 1958, p. 591.